

Calculations and Formulas

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Lender Loss Rate Calculation

$$\text{Lender Loss Rate} = \frac{(\text{Total losses paid on loans made during the past 7 years})}{(\text{Total loan amount during the past 7 years})}$$

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Calculations and Formulas (Continued)

Present Value Calculation

Present Value is the current value of an expected future cashflow. In order to execute a debt writedown, the present value of the loan being written down must be greater than or equal to the net recovery value of the loan's security.

The present value is used when the Authorized Agency Official fills out Form FSA 1980-88 (see paragraph 328)

Balance Available is Projected to Remain CONSTANT During Loan Repayment Schedule

Balance Available

1. Balance Available for Term Debt Repayment (BATDR) \$ _____
2. All Other Debt Payments - \$ _____
3. Balance Available (line 1 – line 2) \$ _____

Present Value

4. Repayment Schedule (in years)
5. Interest Rate %
6. Loan Amortization Factor
7. Present Value = Balance Available (Line 3) divided by Loan Amortization Factor (Line 6) \$ _____

Loan Amortization Factor is a function of Repayment Schedule and Interest Rate. See the **Loan Amortization Reference Book** to determine the Loan Amortization Factor.

Actual formula for present value of a regular payment stream: $V = A \left[\frac{1 - (1+i)^{-N}}{i} \right]$

where V equals value, A is the payment, i is the interest rate, and N is the number of payments in months or years as applicable. Use of conversion table or calculator is recommended.

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Calculations and Formulas (Continued)

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Present Value Calculation (continued)

Balance Available is Projected to CHANGE During Loan Repayment Schedule

Subsequent Balance Available (balance Available After Balance Change)

1. Balance Available for Term Debt Repayment (BATDR) (After balance change) \$ _____
2. All Other Debt Payments \$ _____
3. Subsequent Balance Available = BATDR (Line 1) minus All Other Debt Payments (Line 2) = \$ _____

Subsequent Present Value

4. Repayment Schedule (total time in years or months remaining on repayment schedule) _____
5. Interest Rate _____ %
6. Loan Amortization Factor _____
7. Subsequent Present Value = Subsequent Balance Available (Line 3) divided by Loan Amortization Factor (Line 6) \$ _____

Initial Balance Available (balance Available Before Balance Change)

8. Balance Available for Term Debt Repayment (BATDR) (Before balance change) \$ _____
9. All Other Debt Payments \$ _____
10. Initial Balance Available = BATDR (Line 8) minus All Other Debt Payments (Line 9) = \$ _____

Initial Present Value

11. Period Initial Balance is Available (years or months) _____
12. Interest Rate _____ %
13. Loan Amortization Factor _____
14. Initial Present Value = Initial Balance Available (Line 10) divided by Loan Amortization Factor (Line 13) \$ _____

15. Subsequent Present Value (Line 7) + Initial Present Value (Line 14) \$ _____

16. Subsequent Balance Available Divided by Initial Loan Amortization Factor = Subsequent Balance Available (Line 3) ÷ Initial Balance Available Loan Amortization Factor (Line 13) \$ _____

Present Value Of Uneven Payments

17. Present Value of Uneven Payments = (Line 15) - (Line 16) \$ _____

Loan Amortization Factor is a function of Repayment Schedule and Interest Rate. See the **Loan Amortization Reference Book** to determine the Loan Amortization Factor.

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Calculations and Formulas (Continued)

Net Recovery Value = (A+B) - C

Net Recovery Value is

- the estimated market value of security
- plus any expected revenue or rent generated by the security
- minus any reasonable lender incurred liquidation expenses

In order to execute a debt writedown, the net recovery value must be equal to or less than the present value of the loan being written down.

The net recovery value is used when the Authorized Agency Official fills out Form FSA 1980-88 (see paragraph 328)

A. Market Value of Property

(based on appraisal conducted according to § 762.127)
(Part 8, Section 4, Subsection 3)

B. Expected Income or Revenue

1. Annual Rent x Holding Period (HP)¹ _____
2. Annual Royalties x HP² _____
3. Other Annual Income x HP _____
4. Annual % Property Appreciation x HP + _____
- Total _____

C. Expenses

1. Prior Lienholder Indebtedness (P&I) _____
2. Annual Taxes and Assessments x HP _____
3. Annual Property Depreciation x HP _____
4. Annual Management Costs x HP _____
5. Essential Repairs to Secure and Rease _____
6. Other Costs: _____
- Taxes _____
- Closing Costs _____
- Surveys _____
- Administrative Costs Not Considered "In-House" _____
7. Resol. Expenses-Commission, Advertising _____
8. Total Interest Cost During Holding Period (Note Rate) _____
9. Hazardous Waste Cleanup + _____
- Total _____

¹HP=Holding Period in years or percentages thereof. Typically 90 days unless longer period is agreed to by FSA.

D. Net Recovery Value

Market Value of Property + Expected Income or Revenue - Expenses = Net Recovery Value

_____ + _____ - _____ = \$ _____